



CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

March 18, 2005

H.R. 610 **Energy Research, Development, Demonstration,** **and Commercial Application Act of 2005**

As ordered reported by the House Committee on Science on February 10, 2005

SUMMARY

H.R. 610 would authorize appropriations for various research and development activities at the Department of Energy (DOE) and the Environmental Protection Agency. Most of those activities would be related to energy production, conservation, or research and development. Assuming appropriation of the specified amounts, CBO estimates that implementing H.R. 610 would cost \$3.3 billion in 2006 and \$36.2 billion over the 2006-2010 period. CBO estimates that enacting the bill also would increase direct spending by \$540 million over the 2006-2010 period and by \$1.3 billion over the 2006-2015 period. Enacting the bill would not affect revenues.

H.R. 610 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA). States and other public entities would benefit from the programs and grants authorized in this bill; any costs they face would result from participation in voluntary federal programs.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of H.R. 610 is shown in the following table. The costs of this legislation fall within budget function 250 (science, space, and technology), 270 (energy), and 300 (natural resources and the environment).

TABLE 1. ESTIMATED CHANGES IN SPENDING UNDER H.R. 610 OVER THE 2005-2010 PERIOD

	By Fiscal Year, in Millions of Dollars					
	2005	2006	2007	2008	2009	2010
SPENDING SUBJECT TO APPROPRIATION						
Spending Under Current Law for Programs Authorized by H.R. 610						
Budget Authority ^a	5,300	0	0	0	0	0
Estimated Outlays	5,156	2,744	536	75	29	0
Proposed Changes						
DOE Science Programs						
Specified Authorization Level	0	3,785	4,153	4,628	5,300	5,800
Estimated Outlays	0	1,893	3,780	4,372	4,940	5,516
Energy Efficiency Programs						
Specified Authorization Level	0	840	940	1,050	1,190	1,275
Estimated Outlays	0	420	764	980	1,104	1,212
Renewable Energy Research						
Specified Authorization Level	0	465	605	775	940	1,125
Estimated Outlays	0	209	458	637	817	990
Nuclear Energy Programs						
Specified Authorization Level	0	557	577	599	621	645
Estimated Outlays	0	251	482	556	605	627
Fossil Energy Programs						
Specified Authorization Level	0	633	661	676	691	707
Estimated Outlays	0	253	454	659	678	693
Hydrogen Fuel Development						
Specified Authorization Level	0	274	375	450	500	550
Estimated Outlays	0	123	278	380	456	511
Advanced Vehicle Technology						
Specified Authorization Level	0	300	135	35	10	10
Estimated Outlays	0	120	189	120	40	14
Clean Coal Technology						
Specified Authorization Level	0	200	200	200	200	200
Estimated Outlays	0	50	100	130	160	180
Total Proposed Changes						
Specified Authorization Level	0	7,054	7,646	8,413	9,452	10,312
Estimated Outlays	0	3,319	6,506	7,834	8,799	9,743

Continued

TABLE 1. CONTINUED

	By Fiscal Year, in Millions of Dollars					
	2005	2006	2007	2008	2009	2010
SPENDING SUBJECT TO APPROPRIATION Continued						
Spending Under H.R. 610						
Specified Authorization Level ^a	5,300	7,054	7,646	8,413	9,452	10,312
Estimated Outlays	5,156	6,063	7,043	7,909	8,828	9,743
CHANGES IN DIRECT SPENDING						
Budget Authority	0	150	150	150	150	150
Estimated Outlays	0	30	75	135	150	150

a. The 2005 level is the amount appropriated for that year for DOE programs related to science, energy supply, fossil energy, and certain energy conservation programs.

BASIS OF ESTIMATE

For this estimate, CBO assumes that the amounts authorized by H.R. 610 will be appropriated for each fiscal year and that spending will follow historical patterns for ongoing or similar activities.

Spending Subject to Appropriation

H.R. 610 would authorize the appropriation of nearly \$7.1 billion in 2006 and \$42.9 billion over the 2006-2010 period for research, development, and demonstration activities related to energy consumption and supply. Over half the total funding, \$23.7 billion, would be for the Department of Energy's science programs. CBO estimates that implementing H.R. 610 would cost \$3.3 billion in 2006 and about \$36.2 billion over the 2006-2010 period, assuming appropriation of the specified amounts. CBO estimates that implementing:

- Title I would cost \$1.9 billion in 2006 and \$20.5 billion over the 2006-2010 period for the Department of Energy's science programs;
- Title III would cost \$420 million in 2006 and \$4.5 billion over the 2006-2010 period for energy efficiency programs related to vehicles, buildings, industry, and electric energy systems;

- Title IV would cost \$209 million in 2006 and \$3.1 billion over the 2006-2010 period for renewable energy research and development related to solar, bioenergy, wind, geothermal, and photovoltaic programs;
- Title V would cost \$251 million in 2006 and \$2.5 billion over the 2006-2010 period for nuclear energy programs, including assistance to DOE to participate in the design, building, and operation of a demonstration nuclear power plant using advanced technology;
- Title VI would cost \$253 million in 2006 and \$2.7 billion over the 2006-2010 period for fossil energy programs, including a new program for the research and development of unconventional petroleum resources;
- Title VII would cost \$123 million in 2006 and \$1.7 billion over the 2006-2010 period for programs to develop hydrogen as an energy source;
- Title VIII would cost \$120 million in 2006 and \$483 million over the 2006-2010 period for programs related to advanced vehicle technology, such as vehicles that run on fuel cells, ultra-low sulfur diesel, and hybrid technology; and
- Title IX would cost \$50 million in 2006 and \$620 million over the 2006-2010 period for providing assistance to electricity projects using clean coal technologies.

Direct Spending

H.R. 610 would establish a new program to develop unconventional sources of petroleum and natural gas from both onshore sources and from the deep waters of the Outer Continental Shelf. Under the program, \$150 million per year over the 2006-2015 period would be deposited into a new Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund for expenditure by DOE without further appropriation. Those funds would come from royalties, rents, and bonuses paid by private firms to the government—under current law—for minerals production activity on federal land. In 2004, such receipts totaled about \$7.5 billion. Such collections are currently deposited into the Treasury and are not available unless appropriated. Enacting H.R. 610 would not affect the amounts of future collections. CBO estimates that implementing the new program would cost \$30 million in 2006 and \$1.3 billion over the 2006-2015 period (see Table 2).

TABLE 2. CHANGES IN DIRECT SPENDING UNDER H.R. 610 OVER THE 2005-2015 PERIOD

	By Fiscal Year, in Millions of Dollars										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Budget Authority	0	150	150	150	150	150	150	150	150	150	150
Estimated Outlays	0	30	75	135	150	150	150	150	150	150	150

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

H.R. 610 contains no intergovernmental or private-sector mandates as defined in UMRA. States and other public entities would benefit from the programs and grants authorized in this bill; any costs they face would result from participation in voluntary federal programs.

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